

PROPOSED SWP BDCP COVERED ACTIVITIES

1. Overview

The SWP's Covered Activities are those activities associated with delivering water supplies from its Delta facilities. Those activities can be broken into four categories: 1) volume of water diverted and delivered to SWP contractors; 2) volume of water diverted and delivered for other SWP operations such as drought water banks; 3) operation of Delta facilities needed for water transport and delivery; and 4) maintenance, monitoring and other associated ongoing activities.

The following text provides a description of the SWP Covered Activities as initially proposed. Additional details and refinements to this initial description of Covered Activities as well as possible revisions will be developed to support analysis and planning efforts of the BDCP. It is also expected that Covered Activities will evolve over the next few years as the BDCP takes shape, to reflect modified facilities and operations that may become available through improvements to the system that will minimize and mitigate impacts on the protected species.

2. State Water Project (SWP)

2.1 SWP Water Deliveries

The SWP activities to be covered by the BDCP include continued operation of the Project to provide the maximum water deliveries allowed under "Table A," "Article 21" and "Article 55" of each water agency's contract with the Department of Water Resources (DWR). The amount of water delivered in any year has been and will continue to be variable, but in any year, will be equal to the amount of water that is hydrologically available and that can be diverted under current contractual rights consistent with the terms and conditions of the BDCP. Provided below is a description of the various categories of SWP "project water."

Table A Water

Included as an exhibit to each SWP contractor's contract with DWR, Table A specifies the maximum amount of water that contractor can receive from the original projected minimum project yield of 4.2 MAF/year. The total of the maximums in all the contracts now equals 4.173 MAF/year. The actual amount of Table A water available in any given year has been and will continue to be variable, but in sufficiently wet years the full Table A amounts may be available. The maximum Table A apportionments for each contractor are shown on Figure 1.

Figure 1 - Maximum Annual SWP Table A Amounts

SWP Contractors	Maximum Table A	SWP Contractors	Maximum Table A
Delivered from the Delta		Southern California	
North Bay		Antelope Valley-East Kern WA	141,400
Napa County FC&WCD	29,025	Castaic Lake WA	95,200
Solano County WA	47,756	Coachella Valley WD	121,100
Subtotal	76,781	Crestline-Lake Arrowhead WA	5,800
South Bay		Desert WA	50,000
Alameda County FC&WCD, Zone 7	80,619	Littlerock Creek ID	2,300
Alameda County WD	42,000	Mojave WA	75,800
Santa Clara Valley WD	100,000	Metropolitan WDSC	1,911,500
Subtotal	222,619	Palmdale WD	21,300
San Joaquin Valley		San Bernardino Valley MWD	102,600
Oak Flat WD	5,700	San Gabriel Valley MWD	28,800
County of Kings	9,305	San Geronio Pass WA	17,300
Dudley Ridge WD	57,343	Ventura County FCD	20,000
Empire West Side ID	3,000	Subtotal	2,593,100
Kern County WA	998,730	Delta Subtotal	
Tulare Lake Basin WSD	95,922	4,132,986	
Subtotal	1,170,000	Feather River	
Central Coastal		County of Butte	27,500
San Luis Obispo County FC&WCD	25,000	Plumas County FC&WCD	2,700
Santa Barbara County FC&WCD	45,486	City of Yuba City	9,600
Subtotal	70,486	Subtotal	39,800
		Grand Total	4,172,786

Article 21 Water

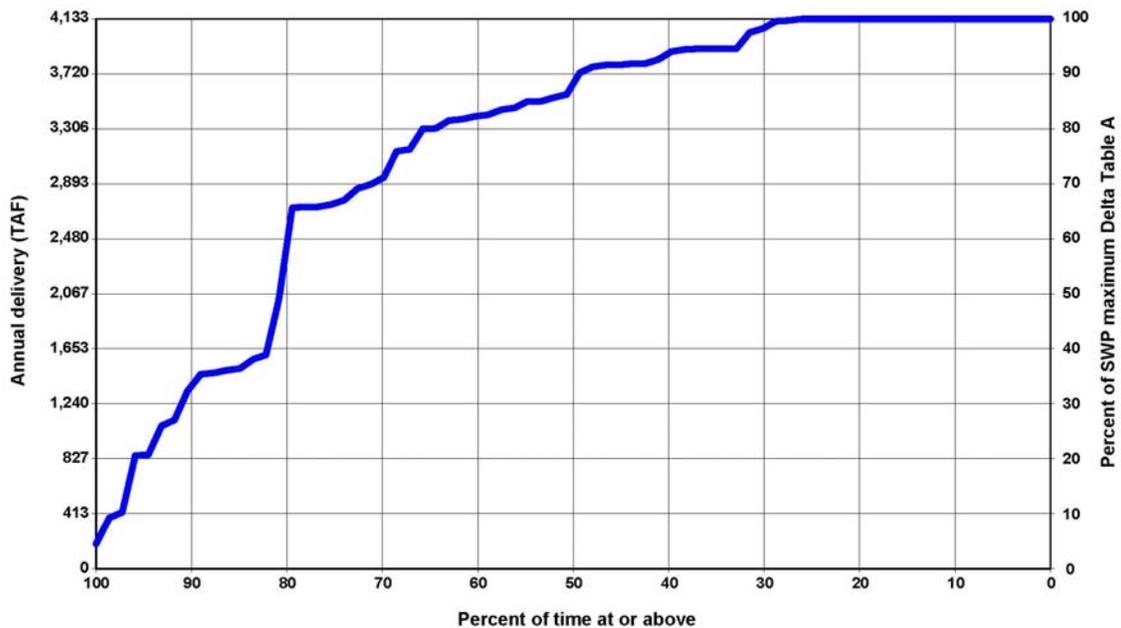
Article 21 of each contract provides for delivery of water in addition to the Table A amounts when excess water is available in the Delta. Excess water is water reaching the Delta in excess of that needed to (i) meet in-basin needs (including fishery requirements), (ii) fill storage in San Luis Reservoir, and (iii) meet SWP contractor requests for Table A amounts. Article 21 water becomes available during wetter months of the year, generally December through March.

Article 55 Water

Article 55 of each contract specifies that SWP facilities can be used by the SWP contractors to transport non-Project water to the extent that such deliveries do not conflict with other, higher priority Project uses.

To assist in the analysis of the likely levels of delivery in any particular hydrologic year-type, under a given set of regulatory obligations, a probability distribution or reliability curve is used. The current SWP Water Deliveries Reliability Curve, provided on Figure 2, is based on historic hydrology and reflects existing regulatory obligations and institutional limitations regarding water quality, fish protection and flows on water supply operations. The shape of that curve, both from the standpoint of patterns and total amounts of deliveries, will likely be refined through the BDCP process to reflect conservation strategies, related operations parameters, and throughout the term of the BDCP in response to regulatory obligations set out in the plan. Thus, while the attached curve helps define current operations and the existing reliability of water supply levels, a modified curve derived during the BDCP process will represent the future reliability of water supply levels for SWP contractors.

Figure 2 - SWP Delta Table A Delivery Probability through Year 2025



In addition to the SWP contract deliveries, DWR is also seeking BDCP coverage and take authority for other Delta operations such as drought water banks. These operations are also described below.

2.2 Drought Water Bank and Other Water Deliveries

{description to be added}

2.3 Water Supply Facilities and Operations

Operation activities include the daily operation of the water diversion, conveyance, and delivery systems, and appurtenant facilities within the BDCP Planning Area that deliver SWP water. A description of these facilities is provided below.

Clifton Court Forebay

Clifton Court Forebay is a 31,000-acre-foot reservoir located in the southwestern edge of the Delta, about 10 miles northwest of the City of Tracy. Clifton Court Forebay is a storage reservoir containing the water pumped from the Harvey O. Banks Pumping Plant to the head of the California Aqueduct in the south Delta. Inflows to the Forebay from surrounding channels are controlled by radial gates, which are generally operated based on the tidal cycle to reduce approach velocities, prevent scour in adjacent channels, and minimize water level fluctuation in the south Delta by taking water in through the gates at times other than low tide. When a large head differential (difference in water surface elevation) exists between the outside and the inside of the gates, theoretical inflow can be as high as 15,000 cfs for a short time. However, existing operating procedures limit inflows to a maximum rate of 12,000 cfs. This prevents water velocities from exceeding 3 feet per second (ft/sec), which helps to control erosion and prevents damage to SWP facilities. While instantaneous flows may reach the levels just described, DWR also operates the radial gates consistent with a permit issued by the United States Army Corps of Engineers pursuant to Section 10 of the Rivers and Harbors Act on October 13, 1981 (Public Notice 5820A, Amended). This permit limits three-day average diversions into Clifton Court Forebay to a rate of 6,680 cfs plus one-third of the flow of the San Joaquin River at Vernalis in excess of 1,000 cfs.

Harvey O. Banks Pumping Plant

The Banks Pumping Plant is in the south Delta, about 8 miles northwest of Tracy and marks the beginning of the California Aqueduct. By means of 11 pumps, including two rated at 375-cfs capacity, five at 1,130-cfs capacity, and four at 1,067-cfs capacity, the Banks Pumping Plant provides the initial lift of water 244 feet into the aqueduct. The nominal capacity of the Banks Pumping Plant is 10,300 cfs. The pumps can be operated at full capacity to enable diversions to utilize power in off-peak periods.

Barker Slough Pumping Plant and North Bay Aqueduct

The Barker Slough Pumping Plant diverts water from Barker Slough into the North Bay Aqueduct (NBA) for delivery in Napa and Solano Counties. The NBA intake is located approximately 10 miles from the mainstem Sacramento River at the end of Barker

Slough. The maximum pumping capacity is 175 cfs (pipeline capacity). During the last few years, daily pumping rates have ranged between 0 and 140 cfs. Each of the 10 NBA pump bays is individually fitted with a positive barrier fish screen consisting of a series of flat, stainless steel, wedge-wire panels with a slot width of 3/32 inch. This configuration is designed to exclude fish 25 millimeters (mm) or larger from being entrained. The bays tied to the two smaller units have an approach velocity of about 0.2 ft/sec. The larger units were designed for a 0.5-ft/sec approach velocity, but actual approach velocity is about 0.44 ft/sec. The screens are routinely cleaned to prevent excessive head loss, thereby minimizing increased localized approach velocities.

2.4 Other Delta Facilities

In addition to the water supply-related facilities described above, DWR manages other in-Delta facilities the operation of which are included as part of the BDCP Covered Activities.

John E. Skinner Delta Fish Protective Facility

The John E. Skinner Delta Fish Protective Facility is located at the head of the Intake Channel that connects Clifton Court Forebay to the Banks Delta Pumping Plant. The Skinner Fish Facility screens fish away from the pumps. Large fish and debris are directed away from the pumps by a 388-foot-long trash boom. Smaller fish are diverted from the intake channel into bypasses by a series of metal louvers, while the main flow of water continues through the louvers and toward the pumps. These fish pass through a secondary system of screens and pipes into seven holding tanks, where they are later counted and recorded. The salvaged fish are then returned to the Delta in oxygenated tank trucks.

Temporary Agricultural Barriers In The South Delta

The existing South Delta Temporary Barrier Project consists of the annual installation and removal of temporary rock barriers at the following locations:

- Middle River near Victoria Canal, about 0.5 mile south of the confluence of Middle River, Trapper Slough, and North Canal.
- Old River near Tracy, about 0.5 mile east of the Delta-Mendota Canal intake.
- Grant Line Canal near Tracy Boulevard Bridge, about 400 feet east of the Tracy Boulevard Bridge.

The barriers on Middle River, Old River near Tracy, and Grant Line Canal are tidal control facilities designed to improve water levels and circulation for agricultural diversions and are in place during the growing season. Installation and operation of the barriers at Middle River and Old River near Tracy can begin May 15, and as early as

April 15 if the spring head of Old River barrier is in place. From May 16 to May 31 (if the head of Old River barrier is removed) culverts that pass through the tide gates at both Middle River and Old River near Tracy are tied open. After May 31, the barriers at Middle River, Old River near Tracy, and the Grant Line Canal are permitted to be operational until September 30.

Temporary Barrier at Head of Old River

Since 1968, DWR has seasonally installed a rock barrier at the Head of Old River, near Mossdale. The barrier is installed in the Spring (and the summer, when warranted) to block downstream migrating salmonids from entering the south Delta where they would be exposed the effects of the export pumps, and to keep them in the mainstem San Joaquin River, where their probability of survival is higher. The barrier is installed again in the fall to keep flow in the San Joaquin River to alleviate low dissolved oxygen conditions in the river downstream of the City of Stockton.

2.5 Maintenance Activities

Maintenance and replacement means those routine activities that maintain the capacity and operational features of the existing water diversion and conveyance facilities described above in sections 2.2 and 2.3 including Harvey O. Banks Pumping Plant, Clifton Court Forebay, Barker Slough/North Bay Aqueduct, and John E. Skinner Fish Facility. Operations, maintenance and replacement activities include canal maintenance, placement of riprap for bankline protection and erosion control; vegetation management and weed control; O&M of electrical power supply facilities; and routine maintenance as needed to ensure continued operations and replacement of facility or system components when necessary to maintain system capacity and operational capabilities.

2.6 Ongoing and Future Projects

As part of the Covered Activities for which incidental take authorization is being sought under the BDCP DWR proposes the continuation of several exiting projects and facility upgrades associated with these on-going activities.

South Delta Operable Agricultural Gates and Related Dredging

DWR proposes to construct permanent operable gates in the channels where the temporary agricultural barriers are currently installed. This will save on the costs and impacts of annual construction and removal of the rock barriers, and allow for more effective and flexible control of water levels using gates that can be set at specific water elevations. This activity also includes dredging of certain channels in the south Delta to improve water supply conditions for south Delta agricultural diverters.

Operable Head of Old River Gate

This project would install a permanent operable barrier at roughly the same location where DWR has seasonally installed a rock barrier at the Head of Old River, near

Mossdale. A permanent operable barrier is proposed to save on the costs and impacts of the construction and removal of the temporary barriers, and to allow more flexible operations in response to conditions in the river.

2.7 Monitoring Activities

Monitoring activities for the operation of the SWP are also intended to be included under BDCP Covered Activities. This would include both water quality and fishery trend-monitoring activities. The Department's Division of Operations and Maintenance conducts monitoring of chemical, physical and biological parameters to evaluate conditions of concern for drinking water, recreation, and fish and wildlife. Monitoring is conducted throughout the Planning Area. In addition, the Interagency Ecological Program (IEP) conducts monitoring to assess water quality parameters of ecological concern, collects and analyzes benthos, phytoplankton, and zooplankton samples, and conducts surveys of delta smelt, Chinook salmon and other fish Delta fish residents for population trend evaluation.

3.0. Joint Point Of Diversion

Reclamation and DWR maintain the ability to use/exchange each CVP and SWP diversion capacity capabilities (Joint Point of Diversion or JPOD). Reclamation and DWR exercise that authority:

- Stage 1 –to divert water for water service to Cross Valley Canal contractors and Musco Olive, and to recover export reductions taken to benefit fish, and
- Stage 2 – to divert water for any purpose authorized under the water right permits, as conditioned by State Water Resources Control Board Decision 1641.

All stages require a response plan to ensure that water levels in the southern Delta will not be lowered to the injury of water users in the southern Delta (Water Level Response Plan). All stages require a response plan to ensure that the water quality in the southern and central Delta will not be significantly degraded through operations of the JPOD to the injury of water users in the southern and central Delta. JPOD under excess conditions in the Delta is junior to Contra Costa Water District's water right permits for the Los Vaqueros Project.